

▼ Shown: HSK1250 Skidding System



HSK-Series, Skidding System

- PTFE skid pads with dimpled surface for low friction and long lifetime
- Easy to replace skid pads, no tools necessary
- Bi-directional operation using push-pull cylinders avoid the need to reposition cylinders for switching direction
- Large load support surface on the skid beams for distributing load
- Bottom of skid shoes equipped with stainless steel sliding plates.

LH-Series, Low-Height Skidding System

- 2-in-1 track design for added support
- Intuitive pump controls (SFP-Series Split-Flow Pump)
- Easily reversible to change skidding direction
- Portable design for quick setup.

▼ A custom hydraulic Low-Height Skidding System will provide the maintenance team with the ability to maneuver and transport transformers with physical access limitations.



The Ideal Jack and Slide Solution



Skidding Systems

The skidding system is comprised of a series of skid beams moved by hydraulic push-pull cylinders, travelling over a pre-constructed track.

A series of special PTFE coated pads are placed on the skid tracks. The PTFE surface is matched with a sliding plate under the Enerpac skid beams, designed to achieve minimum friction coefficients. The skid beams are connected by hoses to a hydraulic electric or diesel driven power pack.

In addition to our standard skidding systems, we have the capability to create customized skidding systems to meet your specific requirements.



Controls

Enerpac offers several options for controlling our skidding systems. Wireless Controls allows the operator the freedom to view the skidding operation from multiple

locations while providing complete control of all system functions.

Manual controls offer a cost-effective solution by utilizing manual hydraulic valves mounted directly on the skidding system power unit.

▼ HSKJ2500 Skid Shoe Jack.





Skidding Systems

Enerpac Skidding Systems are available in several versions:

- **B-Series (Skid Beam)** utilizes a tall skid beam with built-in push-pull cylinders. Skidding direction can be easily switched by flipping a lever on the attached gripper box.
- **J-Series (Skid Jack)** provides the same functionality as the B-Series with the added benefit of having a built-in cylinder for lifting or leveling the load.

- **LH-Series (Low-Height)** includes low-height skid beams that can fit in tight spaces while still offering high capacity. We also offer a track support for added rigidity when the surface is not fully supported.

HSK LH Series



Capacity:

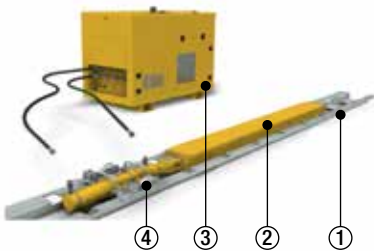
125 - 250 ton

Push/Pull Stroke:

600 mm

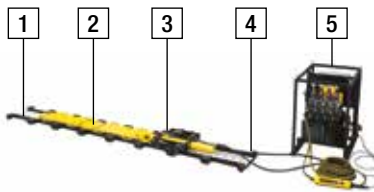
Lifting Stroke:

175 mm



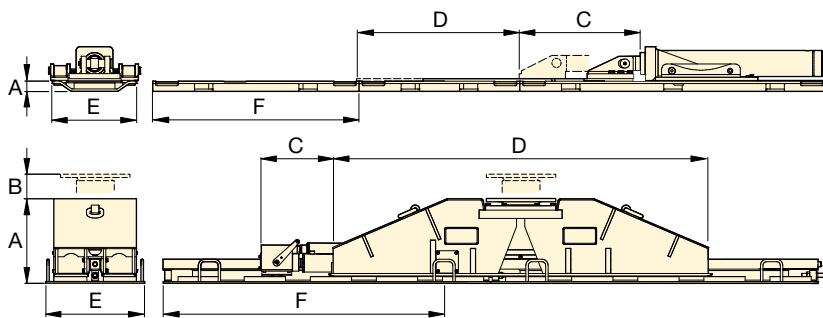
HSK-Series Skidding System Requirements

- ① Skid Track
- ② Skid Beam
- ③ Hydraulic Power Pack
- ④ Hydraulic Push-Pull Unit



LH-Series Skidding System Requirements

- 1 Skid Track (required)
- 2 Skid Beam (required)
- 3 Push-Pull Cylinder Unit (required)
- 4 Hydraulic Hoses (required)
- 5 Split-Flow Electric Pump (required)
- 6 Track Support (optional, not shown)
- 7 Storage/Transport Frame (optional, not shown)
- 8 Pump Cart (optional, not shown)



Skidding Systems

Maximum Capacity (per beam)	Maximum Push-Pull Capacity ton (kN)		Model Number	Skid Beam Height (with track)	Lifting Stroke	Push-Pull Stroke	Skid Beam Length	Skid Beam Weight	Skid Track Width	Skid Track Length	Skid Track Weight
	ton (kN)	Push									
125 (1250)	22 (220)	16 (160)	HSKB1250	309	–	600	2500	740	400	1983	120
125 (1250)	22 (220)	16 (160)	HSKJ1250	502	175	600	1690	790	400	1983	120
200 (2000)	25 (255)	14 (141)	HSKLN2000	204	–	600	2902	340	540	1998	120
250 (2500)	40 (400)	26 (260)	HSKB2500	374	–	600	3000	1020	600	1946	290
250 (2500)	40 (400)	26 (260)	HSKJ2500	600	175	600	1784	1450	600	1946	290
180 (1780)	25 (255)	11 (98)	LH400 *	92	–	600	1080	63	250	955	67

* Low-Height Skidding System, see pages 368 - 371 for detailed and technical information.



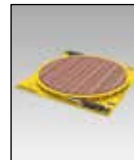
Skid Tracks

Include specially constructed and easily replaceable PTFE coated pads. Skid track is sold separately.



Hydraulic Power Packs

Enerpac offers a comprehensive range of hydraulic power packs that are optimized for use with Skidding Systems.



ETT-Series Turntables, Safe and controlled rotation

The ETT-Series Turntables is your solution for rotating heavy loads during, before or after a lifting and skidding operation.

▼ ETR50H, Enerpac Trolley System (shown with Trolley Track Plates)



- **High transport speed:**
25 - 50 m/hour loaded,
100 m/hour unloaded
- **Suited for repetitive movements**
- **Runs on simple flat steel plate**
- **Ease of maintenance:**
– long maintenance intervals
– no consumables
- **Clean usage – electric driven**
- **Built-in synchronization – no need for forced external mechanical connection to synchronize movements**
- **Easy transport - compact design**
- **Hydraulic lifting cylinder option available**
- **Kits to accommodate other lifting options also available.**

▼ The trolley system speeds up offshore wind transition piece load out: the transition pieces are positioned in the clamping frames and moved along the track.



▼ ETR-Series electric trolley undergoing factory acceptance testing prior to shipment.



Safe & Synchronized Travel



Product Overview

The ETR-Series Trolley System is comprised of electrically-driven trolleys which can carry heavy loads along a fixed track system.

The entire system is controlled by a hand held wireless control system.

A typical system is comprised of 4 Trolleys, 2 Tracks and one Controller. Trolley Tracks and Wireless Control must be ordered separately.



Control Panel and Cables

Operate up to 8 trolleys (same capacity each) using control panel with included wireless controller:

- Automatic synchronization of traveling with an accuracy of 10 mm (0.39 inch)
- Dual-band radio with automatic frequency search
- Wireless remote operation
- High and low speed settings
- Emergency stop switch
- Control cables operate trolley and provide feedback to controller.

Control Panel

Model Number (380-415 VAC, 32A)	Dimensions (mm)			 (kg)
	L	W	H	
ETR-CPW8	1290	600	1100	250

Control Cables

Model Number	Description
ETR-CBL-15	15 metres control cable
ETR-CBL-25	25 metres control cable



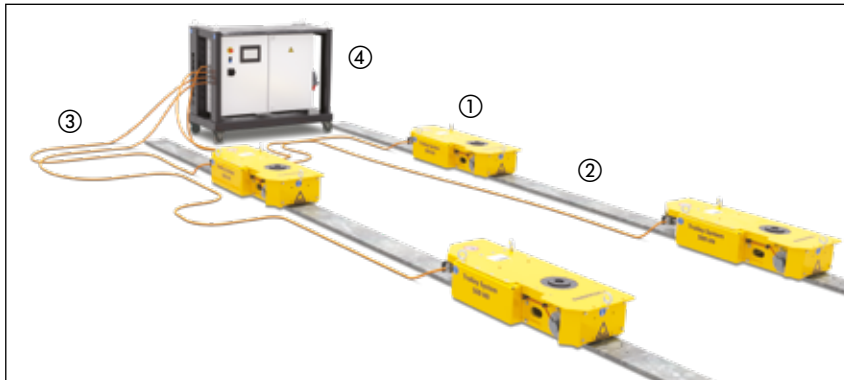
ETR-Trolley System

The Enerpac Trolley System provides an alternative method with increased benefits over traditional skidding methods.

Load movements are more stable due to the continuous movement and ability to precisely control travel speed including acceleration and deceleration.

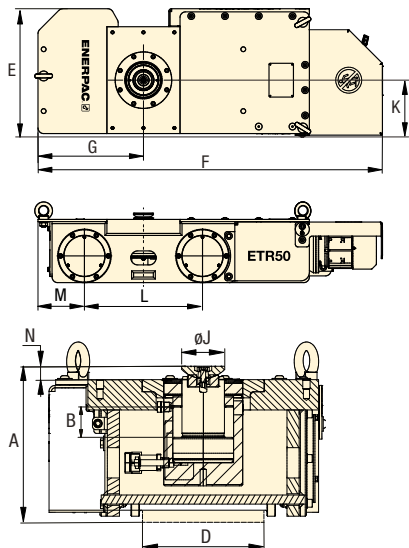
Key features:

Low speed (loaded):	25 m/hr
High speed (loaded):	50 m/hr
Travel speed unloaded:	100 m/hr
Accuracy:	10 mm
Sideload:	1,5% rated load
Sound Level:	< 80 dBA

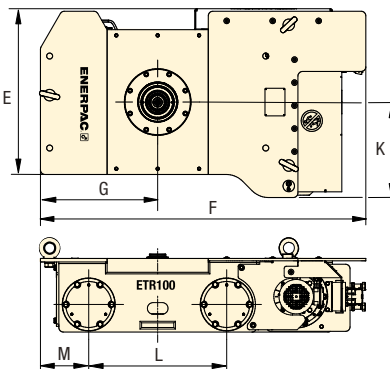


- ① Electric Trolley ETR-Series
- ② Track Plate **ETR-TP-015** or **ETR-TP-030**
- ③ Control Cable **ETR-CBL-15** or **ETR-CBL-25**
- ④ Control Panel **ETR-CPW8** (including wireless remote)
- ⑤ Split-Flow Electric Pump - **SFP-Series** Not shown. Optional for units with hydraulic cylinders

ETR50



ETR100



ETR Series



Capacity Per Trolley:

500 - 1000 kN

Travel Speed (loaded):

25 - 50 m/hr

Motor Power:

0,38 - 0,75 kW



Trolley Track Plates

Track plates provide level guidance and support for the trolley. Two plates placed side-by-side are used for operation of

ETR100-Series Trolleys. Maximum inclination of tracks is 0,2 degree.

Model Number	Description
ETR-TP-015	1,5 m Trolley track plate
ETR-TP-030	3,0 m Trolley track plate



Additional Mounting Options

Mounting kits are available to accommodate other lifting and rigging solutions.

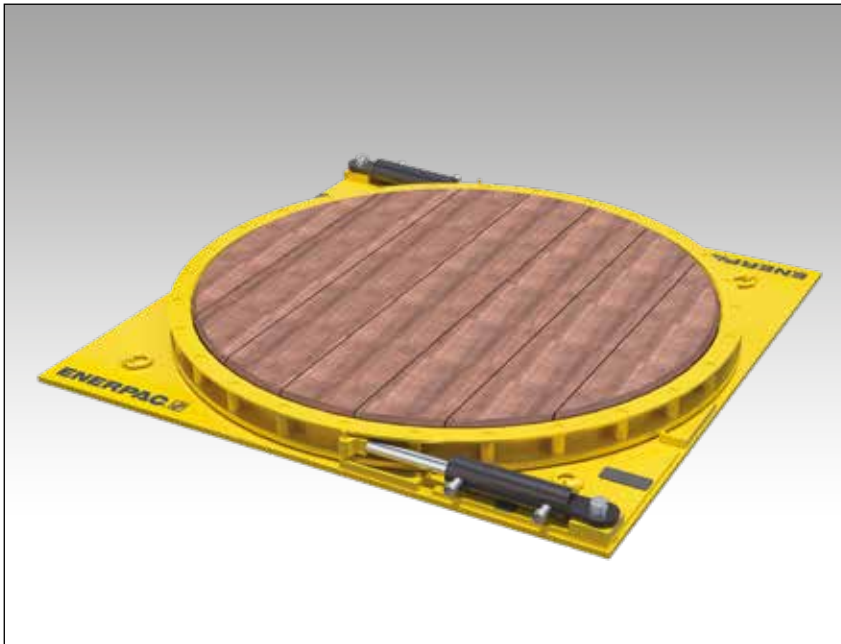
Model Number	Description
ETR50-SMK	Enerpac SCJ50 on ETR50
ETR100-SMK	Enerpac SCJ100 on ETR100
ETR50-BMK	Swivel beam mount on ETR50
ETR100-BMK	Swivel beam mount on ETR100

Capacity per Trolley Unit ton (kN)	Model Number (one unit)	Motor Power (kW)	Dimensions (mm)											(kg)
			A	Hydraulic Stroke ¹⁾	Track Width ²⁾	E	F	G	J	K	L	M	N	
50 (500)	ETR50	0,38	245	–	200	456	1225	375	125	202	420	165	10	310
	ETR50H		257	50					71				22	
100 (1000)	ETR100	0,75	346	–	400	821	1415	510	170	415	600	210	15	850
	ETR100H		349	100					71				19	

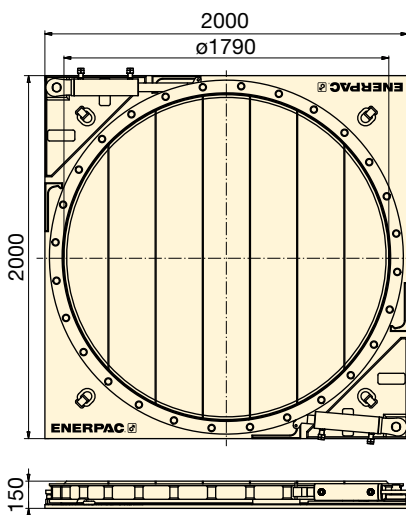
¹⁾ ETR50H includes HCG502 Cylinder with CATS50 Swivel Saddle. ETR100H includes HCG1004 Cylinder with CATS101 Swivel Saddle.

²⁾ ETR100 series uses two track plates side-by-side.

▼ ETT400 Turntable



- Safe and controlled rotation of heavy loads
- Easily change rotation direction
- Dual capacity: 200 ton with one cylinder, 400 ton with two cylinders
- Compact size for use in applications with limited space
- Compatible with standard Enerpac pumps
- Hardwood surface.



▼ SELECTION CHART

Maximum Load Capacity (kN)	Model Number	Cylinder Capacity * (kN)	Cylinder Oil Capacity * (cm ³)		No. of Cylinders *	Rotation per Stroke (degrees)	Platform Diameter (mm)	(kg)
			advance	retract				
2000	ETT200	222	792	344	1	12,5	1790	1700
4000	ETT400	222	792	344	2	12,5	1790	1725

* Per cylinder. Cylinder modelnumber: **BRD259-ETT**

ETT Series

Maximum Capacity:
200 - 400 ton

Cylinder Capacity:
25 ton (222 kN)

Maximum Operating Pressure:
700 bar



Safe and controlled rotation

The ETT-Series is your solution for rotating heavy loads during, before or after a lifting and skidding operation.



SFP-Series, Split-Flow Pumps

Split-Flow pumps distribute an equal amount of hydraulic oil to a maximum of 8 outlets. Smart valve technology allows both controlled lifting and lowering of heavy loads.

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LH-Series, Low-Height Skidding

The ETT-Series are ideal in combination with our skidding systems, particular the LH-Series. Skidding and rotating in confined spaces is simplified.

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Telescopic Hydraulic Gantries

The ETT-Series in combination with our hydraulic gantry SL-Series makes load handling in the most demanding situations easy.

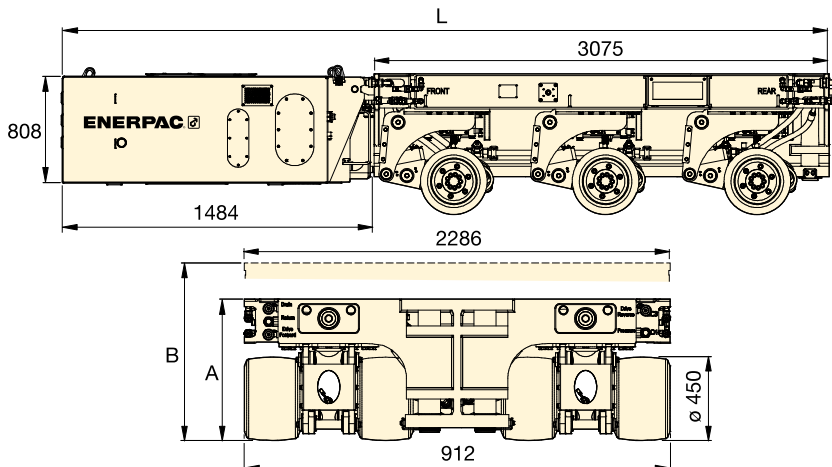
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SPMT, Self-Propelled Modular Transporter

▼ SPMT600-360 with MTPP360 hydraulic power unit (HPU)



- Modular design for multiple configurations.
- Minimized height and slim design are ideal for in-plant operation
- Intelli-Drive wireless control system is intuitive and easy to use
- One power pack can operate 2-3 trailers maximum depending on model
- Two trailers and power pack can be shipped inside a 20 ft. container
- Hydraulic power unit is tier-4 diesel engine for reduced emissions.



SPMT Series

Capacity:

60 ton (600 kN)

Transport Speed (unloaded - loaded):

3 - 1,5 km/h

Motor Size:

54 kW



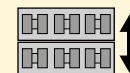
Self-Propelled Modular Transporter

The Enerpac Self-Propelled Modular Transporter (SPMT) features a minimized height and slim design, which makes it very easy to operate in confined spaces. Each wheel unit has a steering function as well as a lifting cylinder at its disposal. Two axles are driven, the centre axle is non-driven. Wheel propulsion is established by wheel drives.

The SPMT is operated by the Intelli-Drive Remote Controller. This remote controller can be used both hard wired and wireless (based on radio frequency).

The SPMT is a modular system and can be built up to a maximum configuration of six transporters in a row and two in the width. This is the maximum setup of units that can work together on just one Intelli-Drive Remote Controller.





The SPMT is a modular system comprised of trailers with 3 axle lines each and diesel hydraulic power units (HPU). Depending on the model number, the trailers and HPUs can be configured to a maximum of 4 trailers in 2 rows (4x2) or 6 trailers in 2 rows (6x2).



Crab



Carousel

Capacity (per transporter) ton (kN)	Transporter Model Number	Maximum Configuration (transporters in rows)	Steering Range (degrees)	Steering Mode		Retracted Height A (mm)	Average Travel Height B (mm)	Overall Length L (mm)	Lifting Stroke (mm)	 SPMT (kg)	HPU * Model Number	 HPU * (kg)
				 crab	 carousel							
60 (600)	SPMT600-100	4 x 2	+/- 50	●	—	767	959	4560	384	8000	MTPP-100	2500
	SPMT600-360	6 x 2	+/- 179	●	●	764	956	5188	384	8300	MTPP-360	2800

* HPU = 54 kW Power Pack Diesel is sold separately.



OFFSHORE GANTRY CRANE

The Enerpac Over Head Travel Crane (OHTC) comprises two pairs of lifting beams, with an overall width of 30m, and a lifting capacity of 4800 ton for lifting, moving and lowering the concrete blocks for the offshore highway.



STRAND JACK GANTRY

The strand jack gantry is a steel structure to facilitate erection and skidding back, forth and sideways of heavy loads. The Enerpac strand jack gantry can be used with either skidding systems or hydraulic gantries on top.



TRAVEL GANTRY

The travel gantry combines the safety and efficiency of a hydraulic gantry with the ease of use of SPMT (self-propelled modular transporter) technology. With a lifting capacity of 67 ton, the travel gantry sets a new standard in equipment and container handling.



BRIDGE LAUNCHING SYSTEMS

Spindle Bar System: group of in-line hollow plunger cylinders. The hollow plungers allow the steel bars to be inserted through the cylinders, which are used for pushing, pulling and braking. **Enerpac Enerlauncher** is an automatic and synchronous incremental hydraulic tandem launching system with a 800 ton lifting section and an 300 ton push/pull section.



JACK-UP SYSTEMS

The jack-up system is a custom developed multipoint lifting system – synchronically lift and mechanically hold. A typical system setup includes four jack-up units positioned under each corner of a load.



ROTOR REMOVAL AND INSTALLATION SYSTEM

The generator rotor removal and installation system is a custom developed product for removing and installing the rotor (field) in a power plant's generator. The system is designed to comply with the varying dimensions and challenging accessibility of a plant's generator.



CUSTOM HYDRAULIC PRESSES

Our hydraulic presses can be configured to fulfill a broad range of applications. Each press is designed and manufactured according to customer specifications and in cooperation with our engineering team.



SELF-ERECTING TOWER

The Enerpac Self Erecting Tower (ESET) is a self-erecting tower lift system that enables you to build a free standing gantry from ground level. The ESET can be supplied in various capacities and lifting heights and is built with standard modular components, enabling a flexible solution to future project demands.



LAS VEGAS WHEEL

Our expertise has been acknowledged by the world's leading industrial professionals and has contributed to the successful movement of a number of the most recognizable structures on earth. At the time of construction the Las Vegas High Roller was the largest observation wheel in the world. A custom hydraulic drive system was developed to propel the wheel for daily use and was also used to construct the wheel in sections.